

WHAT IS CLAIMED IS:

1. A method of software upgrade control for a system server and a sub-network including a plurality of user terminals, the method comprising the steps of:

- (a) providing said system server with updated software versions;
- (b) selecting one of said user terminals;
- (c) requesting from said system server a list of said updated software versions that are absent in said selected user terminal;
- (d) determining whether those of said user terminals unselected in step (b) include any of said absent updated software versions;
- (e) receiving those of said absent updated software versions determined in step (d) to have been included in said unselected user terminals;
- (f) receiving those of said absent updated software versions determined in step (d) to have not been included in said unselected user terminals; and
- (g) upgrading said selected user terminal with said received absent updated software versions.

2. The method of claim 1 further comprising the step of broadcasting an inquiry in said sub-network in determining whether said unselected user terminals include any of said absent updated software versions.

3. The method of claim 1 further comprising the step of registering at said system server after requesting from said system server a list of said updated software versions that are absent in said selected user terminal.

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4. The method of claim 1 further comprising the step of providing an agent in said selected user terminal in requesting said list of said absent updated software versions.

5. The method of claim 1 further comprising the steps of:  
receiving an inquiry broadcast by said unselected user terminals; and  
transmitting one of said updated software versions in response to said inquiry broadcast.

6. The method of claim 1 wherein said selected user terminal is upgraded within a predetermined time interval.

7. The method of claim 1 further comprising the steps of:  
providing said selected user terminal with a first client-server structure and a second client-server structure; and  
providing a client in said first client-server structure for requesting said list of said absent updated software versions.

8. The method of claim 7 further comprising the steps of:  
providing said first client-server structure with a first server for receiving an inquiry broadcast by said unselected user terminals; and

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providing said second client-server structure with a second server for transmitting one of said updated software versions to one of said unselected user terminals in response to said inquiry broadcast.

9. The method of claim 7 further comprising the steps of:

providing said first client-server structure with a first client for requesting one of said absent updated software versions from said unselected user terminals; and

providing said second client-server structure with a second client for requesting one of said absent updated software versions from said system server.

10. A software upgrade control system comprising:

a system server;

a plurality of updated software versions provided at said system server;

a sub-network including a plurality of user terminals wherein one of said user terminals is selected;

a first client-server structure and a second client-server structure provided at said selected user terminals;

a client provided in said first client-server structure for requesting from said system server a list of said updated software versions that are absent in said selected user terminal;

a first server provided in said first client-server structure for receiving an inquiry broadcast by those of said user terminals that are unselected;

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a second server provided in said second client-server structure for transmitting one of said updated software versions to one of said unselected user terminals in response to said inquiry broadcast;

a first client provided in said second client-server structure for requesting one of said absent updated software versions from said unselected user terminals; and

a second client provided in said second client-server structure for requesting one of said absent updated software versions from said system server.

11. The system of claim 10 further comprising an agent provided in said selected user terminal in requesting said list of said absent updated software versions.

12. The system of claim 10 wherein said system server supports an interversion protocol.

13. The system of claim 10 wherein said system server supports a file transfer protocol.

14. The system of claim 10 wherein said system server supports a file transfer assistant protocol.

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15. The system of claim 10 further comprising an agent in each of said user terminals for data communication between said first client-server structure and said second client-server structure.

16. The system of claim 10 further comprising a local area network over which said system server communicates with each of said user terminals.

17. A software upgrade control system, comprising:  
a system server that provides updated software versions;  
a plurality of user terminals grouped to form a sub-network;  
a first client-server structure formed in each of said user terminals to request from said system server a list of updated software versions that are absent, broadcast in said sub-network an inquiry as to whether any other user terminals have any updated software versions absent therein, and receive an inquiry broadcast by said other user terminals;

a second client-server structure formed in each of said user terminals to transmit one of said updated software versions to one of said other user terminals, receive an absent updated software version from one of said other user terminals having said absent updated software version, and receive an absent updated software version from said system server if no other user terminals has said absent updated software version; and

an agent formed in each of said user terminals for data communication between said first and second client-server structures.

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18. The system of claim 17 wherein said first client-server structure formed in each of said user terminals communicates with said system server in an interversion protocol.

19. The system of claim 17 wherein said second client-server structure formed in each of said user terminals communicates with said system server in a file transfer protocol.

20. The system of claim 17 wherein said first client-server structure communicates with said other user terminals in an interversion protocol.

21. The system of claim 17 wherein said second client-server structure communicates with said other user terminals in a file transfer protocol.

22. The system of claim 17 further comprising a first storage for storing said updated software versions.

23. The system of claim 22 further comprising a second storage for storing said updated software versions that are unzipped.

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